[redacted] **Final** **FOCUS REPORT**
New Chemicals Program

PART I: BACKGROUND

Written By: TKP

FOCUS DATE: 2/3/05 **FOCUS CHAIR:** R. Cool

COMPANY: [redacted]

CASE NUMBER(S): P05-0212 **through** P05-0217 **and**

PART II: SAT RESULTS

HEALTH: 1-2 **ECOTOX:** 2 **OCCUPATIONAL EXPOSURE:** 2-3 **CONSUMER EXPOSURE:** **ENVIRONMENTAL RELEASES:**

ADDITIONAL SAT INFORMATION:

PART III: OTHER FACTORS

a. **PRODUCTION VOLUME:** ** kg/yr

b. **PROD VOL OTHER:** [redacted]

c. **USE:** Scale Inhibitor

d. **REGULATORY HISTORY:** NRC

e. **TEST DATA:**

f. **IMPORTED** ☐ **MANUFACTURED** ☑ **BOTH** ☐

g. **MSDS:** ☑

h. **CATEGORY:** Polyanionic Polymers/Monomers **CATEGORY 2:** [redacted]

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PART IV: SUMMARY OF SAT ASSESSMENT

CASE NUMBER: P05-0215/0216/0217

FATE: Solid
S (25°C) > 10 g/L(ICB); VP @ 25C (mm) < 1.0E-6(E); H < 1.00E-8(E)
POTW removal (%) = 0-50 via sorption
Time for complete ultimate aerobic biodeg > mo
PBT Potential: P3B1T1
Sorption to soils/sediments = strong-moderate

HEALTH: Not absorbed from the skin, absorbed from the skin; low molecular weight fraction poorly absorbed from the GI tract (pchem). The PMN substances are expected to chelate calcium and magnesium. Concern for disruption of blood clotting, neuro-muscular effects, and cardiotoxicity based on the chelation of calcium and magnesium.

ECOTOX: Predicted (P) and measured (M) toxicity values in mg/L (ppm) are:
fish 96-h LC50 > 100.0 P
daphnid 48-h LC50 > 100.0 P
green algal 96-h EC50 => 30.0 P
fish chronic value > 10.0 P
daphnid ChV > 10.0 P
algal ChV => 3.0 P

5 0 0 5 0 0 0 2 3 1 0

Predictions are based on SAR-nearest analog method for polyanionic polymers-[redacted]
[redacted] SAR chemical class = polymer-anionic [redacted]
[redacted] solid with decomposition prior to melting

(P) and S = dispersible in water at 25 C, pH7 (P); pH7; effective concentrations based on 100% active ingredients and nominal concentrations; hardness <150.0 mg/L as CaCO3; and TOC <2.0 mg/L;
moderate concern for indirect effects to green algae in soft water, i.e., H <24 mg/L as CaCO3; mitigation of toxicity expected in the presence of Ca and Mg expressed as a hardness of 150 mg/L as CaCO3; MF = 14 times but not measured for this subclass of polyanionic polymers
assessment factor = 10.0
concern concentration >= 0.300 mg/L (ppm)

PART V: SUMMARY OF EXPOSURE/RELEASE

Manu:

Fate: Releases to water (0% removal efficiency)
SWC: 324.13 ppb
DW:LADD: 4.37e-5 mg/kg/d, ADD: 1.09e-4 mg/kg/d, ADR: 1.79e-2 mg/kg/d
>COC (300 ppb):

Proc:

Fate: Releases to water (0% removal efficiency)
SWC: 4.03e+4 ppb
DW:LADD: 1.32e-3 mg/kg/d, ADD: 3.31e-3 mg/kg/d, ADR: 2.02 mg/kg/d
>COC (300 ppb):

Use #1:

Inhal: negligible

Fate: Releases to water (0% removal efficiency)
SWC: 431.15 ppb
DW:LADD: 6.07e-6 mg/kg/d, ADD: 1.52e-5 mg/kg/d, ADR: 2.16e-2 mg/kg/d
>COC (300 ppb): no exceedance

Use #2:

Fate: Releases to water (0% removal efficiency)
SWC: 45.90 ppb

DW:LADD: 7.75e-5 mg/kg/d, ADD: 1.94e-4 mg/kg/d, ADR: 2.30e-3 mg/kg/d
>COC (300 ppb): [redacted]

PART VI: FOCUS DECISION AND RATIONALE

DISPOSITION: Category-5(e) Ban Pend.UF Test

RATIONALE: P05-0212-0214 were elegibile drops (EL DR) at CRSS on 01/10/05.

P05-0215-0217 will be regulated under TSCA 5(e) Category (Polyanionic Polymers) Ban Pending Up Front Testing under the risk-based authority for eco concerns. These chemicals will also be regulated under the exposure-based authority for eco concerns. Potential risks to human health were addressed by negligible inhalation exposures and adequate dermal protection. Potential acute risks to green algae are from releases to water during processing where the 300 ppb COC was exceeded for [redacted] yr (SWC: 40,000 ppb). Although these substances are polymers and did not require exposure-based assessments, the analysis was performed at the request of SAT. The following EAB exposure-based criteria were met: 1) Drinking water ([redacted], 2) Surface water release after treatment ([redacted] and 3) Total release after treatment ([redacted] yr). Fate testing will be the Activated Sludge Sorption Isotherm (OPPTS 835.1110). Eco testing will be the Algal Toxicity test and Algal Toxicity Test with modified medium (calcium) for mitigation. No exposure-based human health testing was desired. The submitter should first provide additional processing water releases information, then conduct the fate testing followed by the eco testing.

PART VII: CCD DISPOSITION / DD

CCD:

[redacted]

STRUCTURE ACTIVITY TEAM REPORT	ver. 04/98
Case #: P-05-0215-217	**DCN:**
SAT Date: 1/25/2005	**SAT Chair:** L. Keifer
Submitter: [redacted]	

Chemical Name:

[redacted]enoic

2005 1 PM 2: EIVED T CBIC

CAS RN: [redacted]	**Trade Name:** [redacted]

Structure

[redacted]

Molecular Formula: [redacted]

Molecular Wt. [redacted]	**WT%<500:** [redacted]	**WT%<1000:** [redacted]
MP:	**BP:**	**Eq. Wt:**
H2O Sol (g/L): > 500	**V.P.**	< 0.000001
Max. Prod. Volume (kg/yr): [redacted]	**Physical State:**	Solid

USE:

Scale inhibitor for calcium and barium scales. Used in subterranean oil wells and industrial water treatment.
Consolidated set: P-05-0212-217.

Related Case Numbers	Case Role	Related Case Numbers	Case Role

Focus Date: 2-2-05 Results: 5e Cat Ero XB- Ero, Fate

5 0 0 0 5 0 0 0 1 8 7 0

[redacted]

STRUCTURE ACTIVITY TEAM REPORT ver. 04/98

Case #: P-05-0216	**DCN:**
SAT Date: 1/25/2005	**SAT Chair:** L. Keifer
Submitter: [redacted]	
Chemical Name: [redacted]	
CAS RN: [redacted]	**Trade Name:** [redacted]

Structure

[redacted]

Molecular Formula: [redacted]			
Molecular Wt. [redacted]	**WT%<500:** [redacted]	[redacted]**%<1000:** [redacted]	
MP:	**BP:**	**Eq. Wt:**	
H2O Sol (g/L): > 500	**V.P.**	< 0.000001	
Max. Prod. Volume (kg/yr): [redacted]	**Physical State:**	Solid	

USE:

Scale inhibitor for calcium and barium scales. Used in subterranean oil wells and industrial water treatment.
Consolidated set: P-05-0212-217.

Related Case Numbers	Case Role	Related Case Numbers	Case Role

Focus **Date:** **Results:** Je Cat Eco XB - Eco, Fate

STRUCTURE ACTIVITY TEAM REPORT ver. 04/98	[redacted]
Case #: P-05-0217	**DCN:**
SAT Date: 1/25/2005	**SAT Chair:** L. Keifer
Submitter: [redacted]	
Chemical Name: [redacted]	
CAS RN: [redacted]	**Trade Name:** [redacted]

Structure

[redacted]

Molecular Formula: [redacted]		
Molecular Wt. [redacted]	**WT%<500:** [redacted]	**WT%<1000:** [redacted]
MP:	**BP:**	**Eq. Wt:**
H2O Sol (g/L): > 500	**V.P.**	< 0.000001
Max. Prod. Volume (kg/yr): [redacted]	**Physical State:**	Solid

USE:

Scale inhibitor for calcium and barium scales. Used in subterranean oil wells and industrial water treatment.
Consolidated set: P-05-0212-217.

Related Case Numbers	Case Role	Related Case Numbers	Case Role

Focus	**Date:**	**Results:** Ee Cat Eco XB - Eco, Fate

STRUCTURE ACTIVITY TEAM REPORT **CBI** 01/25/05

CASE NUMBER: **P05-0215/0216/0217**

RELATED CASES:

CONCLUSIONS/DISCUSSIONS

TYPE OF CONCERN:	HEALTH	ECOTOX
LEVEL OF CONCERN:	1-2	2

KEYWORDS: BLOOD HEART
MUSCLE DEVEL
AQUATOX

SUMMARY OF ASSESSMENT

FATE: Solid
S (25°C) > 10 g/L(ICB); VP @ 25C (mm) < 1.0E-6(E); H < 1.00E-8(E)
POTW removal (%) = 0-50 via sorption
Time for complete ultimate aerobic biodeg > mo
PBT Potential: P3B1T1
Sorption to soils/sediments = strong-moderate
*CEB FATE: Migration to ground water = slow-moderate

HEALTH: Not absorbed from the skin, absorbed from the lung; low molecular weight fraction poorly absorbed from the GI tract (pchem). The PMN substances are expected to chelate calcium and magnesium. Concern for disruption of blood clotting, neuro-muscular effects, developmental toxicity, and cardiotoxicity based on the chelation of calcium and magnesium.

*CEB HEALTH: Low moderate concern (Inhalation); XB: NO testing

ECOTOX: Predicted (P) and measured (M) toxicity values in mg/L (ppm) are:

fish 96-h LC50	>	100.0	P
daphnid 48-h LC50	>	100.0	P
green algal 96-h EC50	=>	30.0	P
fish chronic value	>	10.0	P
daphnid ChV	>	10.0	P
algal ChV	=>	3.0	P

Predictions are based on SAR-nearest analog method for polyanionic polymers-[redacted] SAR chemical class = polymer-anionic-[redacted] separation [redacted]; solid with decomposition prior to melting (P) and S = dispersible in water at 25 C, pH7 (P); pH7; effective concentrations based on 100% active ingredients and nominal concentrations; hardness <150.0 mg/L as CaCO3; and TOC <2.0 mg/L;

moderate concern for indirect effects to green algae in soft water, i.e., H <24 mg/L as CaCO3;
mitigation of toxicity expected in the presence of Ca and Mg expressed as a hardness of 150 mg/L as CaCO3; MF = 14 times but not measured for this subclass of polyanionic polymers
assessment factor = 10.0
concern concentration >= 0.300 mg/L (ppm)
*CEB ECOTOX: All releases to water with CC = 300 ppb; XB: Testing desired: green algae only of any one of the PMNs.

SAT Co-chair: Leonard Keifer 564-8916

NCSAB SAT REPORT [redacted]

PMN: P-05-0215 | CAS RN: None

[redacted]

Analogs:

Production Volume: [redacted]

Structure: [redacted] KR

Use:

Scale inhibitor for calcium and barium scales. Used in subterranean oil wells and industrial water treatment. Consolidated set: P-05-0212-217.

Formula: [redacted] | Eq Wt:

Mol Weight: [redacted] | Wt%<500: [redacted] | Wt%<1000 [redacted]

MP: | BP: | VP: < 0.000001

H2O Sol (g/L): > 500 | Physical State: Solid | Log P:

Endpoint (mg/L)	Est. Value	Meas. Value	Comments
Fish 96-h	>100		
Daphnid 48-h	>100		
Algal 96-h	≥30		chelation
Fish ChV	>10		
Daphnid ChV	>10		
Algal ChV	~~[redacted]~~ 3.0		chelator
BCF			

CHEMICAL CLASS: | SAR: polymer – anionic [redacted]

ECOTOX CONCERN H / M / L | CONCERN CONCENTRATION 0.300

DATE | ASSESSOR:

NCSAB SAT REPORT [redacted]

PMN: P-05-0216	CAS RN: None
Chemical N[redacted]	Analogs:
	Production Volume: [redacted]

Structure: [redacted]

Use:

Scale inhibitor for calcium and barium scales. Used in subterranean oil wells and industrial water treatment. Consolidated set: P-05-0212-217.

Formula: [redacted]		Eq Wt:	
Mol Weight: [redacted]		Wt%<500: [redacted]	Wt%<1000 [redacted]
MP:		BP:	VP: < 0.000001
H2O Sol (g/L): > 500	Physical State: Solid		Log P:

Endpoint (mg/L)	Est. Value	Meas. Value	Comments
Fish 96-h			
Daphnid 48-h			
Algal 96-h			
Fish ChV			
Daphnid ChV			
Algal ChV			
BCF			

CHEMICAL CLASS:				SAR:
ECOTOX CONCERN	H	M	L	CONCERN CONCENTRATION
DATE				ASSESSOR:

NCSAB SAT REPORT [redacted]

PMN: P-05-0217	CAS RN: None
Chemical Name: [redacted]	Analogs:
	Production Volume: [redacted]

Structure:

[redacted]

Use:

Scale inhibitor for calcium and barium scales. Used in subterranean oil wells and industrial water treatment.
Consolidated set: P-05-0212-217.

Formula: [redacted]		Eq Wt:	
Mol Weight: [redacted]		Wt%<500: [redacted]	Wt%<1000 [redacted]
MP:		BP:	VP: < 0.000001
H2O Sol (g/L): > 500	Physical State: Solid		Log P:

Endpoint (mg/L)	Est. Value	Meas. Value	Comments
Fish 96-h			
Daphnid 48-h			
Algal 96-h			
Fish ChV			
Daphnid ChV			
Algal ChV			
BCF			

CHEMICAL CLASS:				SAR:	
ECOTOX CONCERN	H	M	L	CONCERN CONCENTRATION	
DATE				ASSESSOR:	

OPPT STRUCTURE ACTIVITY TEAM (SAT) MEETING DATE 1-25-05

ATTENDEES	SIGNATURE
CHEMISTRY	
✓ Paul Bickart	Paul Bickart
___ Diana Darling	
___ Rich Engler	
___ Greg Fritz	
___ Daniel Lin	
✓ Kathy Schechter	Kathy Schechter
___ _____	
___ _____	
ENVIRONMENTAL FATE	
___ Bob Boethling	
___ David Lynch	
___ Laurence Libelo	
✓ Andy Mamantov	A. Mamantov
___ _____	
HEALTH	
___ Katherine Anitole	
✓ Michael Cimino	
___ Leonard Keifer	
___ David Lai	
✓ Jim Murphy	
___ Deborah Norris	
✓ Ronald Ward	
___ Yin Tak Woo	
___ _____	
___ _____	
ENVIRONMENTAL EFFECTS	
✓ Gordon Cash	Gordon Cash
___ Vince Nabholz	
___ Maggie Wilson	
___ _____	
___ _____	
SAT CHAIR/OTHER	
___ Rebecca Jones	
✓ Leonard Keifer	
___ Vince Nabholz	
✓ Jim Kwiat	
✓ Princess Campbell	